# Lebbeus rubrodentatus sp. nov. (Crustacea: Caridea: Hippolytidae) from the Australian North West Shelf

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#### ABSTRACT

A new species of the hippolytid genus *Lebbeus* White, 1847, *L. rubrodentatus* sp. nov., is described and illustrated. Its colour pattern in life is diagnostie. The single specimen was sorted from a benthic trawl sample obtained in 360–396 m in the Timor Sca. A key to the five carinate species of the large genus *Lebbeus* is provided.

KEYWORDS: Lebbeus rubrodentatus, new species, Decapoda, Hippolytidae, Timor Sea.

## INTRODUCTION

A recent paper by McCallum & Poore (2010) reported on the carinate species of Lebbeus White, 1847 (i.e., those species possessing a high, bilaterally compressed dorsal keel on the carapace) with particular reference to the Australian species. Two new species, L. clarehannah McCallum & Poore, 2010 and L. cristagalli McCallum & Poore, 2010, were described and illustrated in detail. In the remarks on L. cristagalli it was noted that one specimen was significantly different from the 10 type specimens, none of which had the carinal dentition resembling the present specimen. These authors noted that the speeimen might belong to another new species. It was suggested that the reduced size of the two distal teeth might be due to damage in life. The colouration was also significantly different. Re-examination of the carinal teeth by the present author shows no suggestion of traumatic origin, with the teeth forming a graduated, though exaggerated, series when compared to the other species of this group. McCallum & Poore (2010) also clearly demonstrate that the striking colour patterns of the other species of this group arc species-specific, as shown by their excellent colour illustrations. There is no reason to doubt that the distinctive colour pattern found in the present specimen is not also species-specific. Thus the specimen can safely be regarded as a distinct species and is now here provided with a name.

The unique holotype is held in the collections of the Museum and Art Gallery of the Northern Territory, Darwin. Abbreviations used: CL, postorbital carapace length; NTM, Museum and Art Gallery of the Northern Territory Museum (formerly Northern Territory Museum), Darwin; QM, Queensland Museum, Brisbane.

## **SYSTEMATICS**

# Family Hippolytidae Bate, 1888 Genus *Lebbens* White, 1847

Gender masculine. Type species, by monotypy, *Lebbeus orthorhynchus* (Leaeh mss) White, 1847 (= *Alpheus polaris* Sabine, 1824). Recent, Circum-Arctie. The genus name *Lebbeus* White, 1847 has been eonserved under the Plenary Powers of the International Commission on Zoologieal Nomenclature and placed on the Official List of Generic Names in Zoology (ICZN 1963: Opinion 671).

Synonyms of *Lebbeus* are *Hetairns* Bate, 1888 and *Birulaecaris* Dons, 1915 (Holthuis 1993).

#### Lebbeus rubrodentatus sp. nov.

Figs 1, 2

Lebbeus cristagalli McCallum & Poore, 2010: 134 (in part), fig. 4E.

Material examined. HOLOTYPE – NTM CR.6897, ovig. 9, CL 15.2 mm, Timor Sea, 9°35'S, 129°28'E, 360–396 m, trawl, coll. B. Wallner on F.V. *Territory Pearl*, 18 January 1988.

## Description.

Carapace with very well developed triangular dorsal carina bearing 5 acute teeth, posterior first tooth small, narrowly acute, second and third teeth similar, much enlarged, broadly acute, seeond slightly larger than third, fourth and fifth anterior teeth very small, acute; terminal segment of third maxilliped with about 25 spines; epipods present on first three pereiopods, 4 pairs of dorsal telson spines; other morphological characters as in *L. cristagalli*.

**Colouration** (Fig. 1). Body and appendages generally pale pink, most intense over postorbital region and dorsal carapace, paler over branchiostegal region; dorsal carapace



Fig. 1. Lebbeus rubrodentatus sp. nov., ovigerous female holotype, Timor Sea, 360–396 m, NTM CR.6897, pinxit D. Pereival.

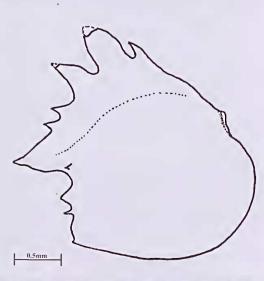


Fig. 2. Lebbeus rubrodentatus sp. nov., ovigerous female holotype, Timor Sea, 360–396 m, NTM CR.6897, carapace and rostrum.

and lower half of earina with numerous red spots, largest in postorbital area and decreasing in size peripherally, largest spots with pale centre; earinal teeth all distally deep red, with similar red patches on distal scaphocerite and carpocerite; antennal flagella whitish. Ova dark grey.

**Etymology**. From *rubrum* (Latin), red, and *dentatus* (Latin), toothed, a reference to the distal red of the dorsal earapace teeth.

Remarks. Five earinate species of *Lebbeus* are now known, all from moderately deep water, with *L. yaldwni* occurring from 190 m to 470 m, with the other species at intermediate depth. *Lebbeus compressus* occurs in Japanese waters, all other species are known only from Australian waters. McCallum & Poore (2010) noted that these species form a discrete species group on the basis of the elevated earina on the earapace and presence of epipods on the first and second perciopods only. The new species also has an epipod on the third perciopod. The earina is a very characteristic feature that suggests that these species should be generically separate from the other *Lebbeus* species. The earapace of *L. rubrodentatus* (Fig. 2) has a small supraorbital spine above an obsolescent orbit, with the inferior orbital

angle strongly produced, the antennal spine is slender and acute, reaching to the level of the tip of the inferior orbital angle, and the lower anterior margin of the earapaee is convex above a small pterygostomial tooth. The terminal segment of the third maxillipeds bears about 25 cornified spines extending over almost the whole segment length. The third ambulatory dactyl has a slightly larger distoventral spine and four slender ventral spines, the fifth is similar with three ventral spines.

# Revised key to the earinate species of Lebbeus

- - Carinal teeth (except first) large, forming a regularly diminishing series distally .......4

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